



## TRAUMA TRIAGE CRITERIA AND DESTINATION POLICY

### PURPOSE

To establish Trauma Triage Criteria that is consistent with the American College of Surgeons standards that will help identify trauma patients in the field, and based upon their injuries, direct their transport to an appropriate trauma center.

### AUTHORITY

Health and Safety Code, Division 2.5 California Code of Regulations, Title 22 Chapter 7.

### DEFINITIONS

Adult Patients: a person appearing to be  $\geq 15$  years of age.

Pediatric Patients: a person appearing to be  $< 15$  years of age.

Critical Trauma Patients (CTP): patients meeting ICEMA's Critical Trauma Patient Criteria.

Trauma Center: a licensed general acute care hospital designated by ICEMA's Governing Board as a trauma hospital in accordance with State laws and regulations.

Pediatric Trauma Center: a licensed acute care hospital which usually treats (but is not limited to) persons  $< 15$  years of age, designated by ICEMA's Governing Board, meets all relevant criteria, and has been designated as a pediatric trauma hospital, according to California Code of Regulations, Title 22, Division 9, Chapter 7, Section 100261.

Inadequate Tissue Perfusion: evidenced by the presence of cold, pale, clammy, mottled skin, and/or capillary refill time  $> 2$  seconds. Pulse rate will increase in an attempt to pump more blood. As the pulse gradually increases (tachycardia), it becomes weak and thready. Blood pressure is one of the last signs to change (hypotension). Altered level of consciousness may also be an indicator to inadequate tissue perfusion, especially in the very young.

### POLICY

#### A. TRANSPORTATION: For Patients Identified as a CTP

1. Adult patients will be transported to the closest trauma center.

2. Pediatric patients will be transported to a pediatric trauma center when there is less than a twenty (20) minute difference in transport time to the pediatric trauma center versus the closest trauma center.
3. Helicopter transport shall not be used unless ground transport is expected to be greater than thirty (30) minutes and EMS aircraft transport is expected to be significantly more expeditious than ground transport. If an EMS aircraft is dispatched, adherence to the Aircraft Destination Policy #14054 (in San Bernardino County) is mandatory.
4. Patients with an unmanageable airway shall be transported to the closest receiving hospital for airway stabilization. Trauma base station contact shall be made.
5. Hospital trauma diversion status: Refer to Protocol #8060, San Bernardino County Hospital Diversion Policy.
6. Multi-Casualty Incident: Refer to Protocol #5050, Medical Response to a Multi-Casualty Incident Policy.
7. CTP meeting physiologic or anatomic criteria with associated burns will be transported to the closest trauma center.

## B. CRITICAL TRAUMA PATIENT CRITERIA (CTP)

A patient shall be transported to the closest trauma center when any one of the following physiologic and/or anatomic criteria is present following a traumatic event (trauma base station contact shall be made):

### 1. Physiologic

<i>INDICATORS</i>	<i>ADULT</i>	<i>PEDIATRIC</i>
<b>Glasgow Coma Scale (GCS) Level of Consciousness (LOC)</b>	<ul style="list-style-type: none"> <li>GCS <math>\leq</math> 13</li> <li>LOC &gt; 3 minutes</li> <li>nausea/vomiting in the setting of significant head trauma.</li> </ul>	<ul style="list-style-type: none"> <li>GCS <math>\leq</math> 13</li> <li>any LOC</li> <li>nausea/vomiting in the setting of significant head trauma</li> </ul>
<b>Respiratory</b>	<ul style="list-style-type: none"> <li>requiring assistance with ventilation or</li> <li>hypoxic = O<sub>2</sub> saturation that is consistently &lt; 90% <u>and a</u></li> <li>RR &lt; 10 or &gt; 29</li> </ul>	<ul style="list-style-type: none"> <li>requiring assistance with ventilation or</li> <li>hypoxic = O<sub>2</sub> saturation that is consistently &lt; 90% <u>and a</u></li> <li>&lt; 10 years: RR &lt; 12 or &gt; 40</li> <li>&lt; 1 year: RR &lt; 20 or &gt; 60</li> </ul>
<b>Hypotension</b>	<ul style="list-style-type: none"> <li>exhibits inadequate tissue perfusion</li> </ul>	<ul style="list-style-type: none"> <li>exhibits inadequate tissue perfusion</li> </ul>

<i>INDICATORS</i>	<i>ADULT</i>	<i>PEDIATRIC</i>
	<ul style="list-style-type: none"> <li>• BP &lt; 90mmHG</li> <li>• tachycardia</li> </ul>	<ul style="list-style-type: none"> <li>• abnormal vital signs (according to age)</li> </ul>

## 2. Anatomic

<b>Penetrating Injuries to:</b>	<ul style="list-style-type: none"> <li>• head</li> <li>• neck</li> <li>• chest</li> </ul>	<ul style="list-style-type: none"> <li>• abdomen/pelvis</li> <li>• extremity proximal to the knee or elbow</li> </ul>
<b>Blunt Chest Trauma resulting in:</b>	<ul style="list-style-type: none"> <li>• ecchymosis</li> <li>• unstable chest wall</li> </ul>	<ul style="list-style-type: none"> <li>• flail chest</li> </ul>
<b>Severe Tenderness to:</b>	<ul style="list-style-type: none"> <li>• head</li> <li>• neck</li> <li>• torso</li> </ul>	<ul style="list-style-type: none"> <li>• abdomen</li> <li>• pelvis</li> </ul>
<b>Paralysis:</b>	<ul style="list-style-type: none"> <li>• traumatic</li> <li>• loss of sensation</li> </ul>	<ul style="list-style-type: none"> <li>• suspected spinal cord injury</li> </ul>
<b>Abdomen:</b>	<ul style="list-style-type: none"> <li>• tenderness with firm and rigid abdomen on examination</li> </ul>	
<b>Amputations:</b>	<ul style="list-style-type: none"> <li>• above the wrist</li> </ul>	<ul style="list-style-type: none"> <li>• above the ankle</li> </ul>
<b>Fractures:</b>	<i>ADULT</i>	<i>PEDIATRIC</i>
	<ul style="list-style-type: none"> <li>• evidence of two or more proximal long bone fractures (femur, humerus)</li> </ul>	<ul style="list-style-type: none"> <li>• open fractures</li> <li>• two or more long bone fractures</li> </ul>
<b>Skull Deformity</b>		
<b>Major Tissue Disruption</b>		
<b>Suspected Pelvic Fracture</b>		

## 3. Mechanism of Injury

- a. If a patient has one or more of the following mechanisms of injury **with** any of the above physiologic or anatomic criteria transport to the closest trauma center.
- b. If there are no associated physiologic or anatomic criteria and the potential CTP meets one or more of the following mechanisms of injury, contact a trauma base station for physician consultation to determine the patient destination. In some cases, a trauma base station may direct a patient a non-trauma receiving hospital.

<b>High Speed Crash:</b>	<ul style="list-style-type: none"> <li>• initial speed &gt; 40mph</li> <li>• major auto deformity &gt; 18 inches</li> <li>• intrusion into passenger space compartment &gt; 12 inches</li> </ul>	<ul style="list-style-type: none"> <li>• unrestrained passenger</li> <li>• front axle rearward displaced</li> <li>• bent steering wheel/column</li> <li>• starred windshield</li> </ul>
<b>Vehicle Rollover:</b>	<ul style="list-style-type: none"> <li>• complete rollover</li> <li>• rollover multiple times</li> <li>• unrestrained</li> </ul>	<ul style="list-style-type: none"> <li>• restrained with significant injuries or high rate of speed</li> </ul>
<b>Motorcycle Crash:</b>	<ul style="list-style-type: none"> <li>• &gt; 20 mph and/or</li> </ul>	<ul style="list-style-type: none"> <li>• separation of rider from the bike with significant injury</li> </ul>
<b>Non-Motorized Transportation (e.g., bicycles, skate boards, ski's etc.)</b>	<ul style="list-style-type: none"> <li>• with significant impact &gt; 20 mph and/or</li> </ul>	<ul style="list-style-type: none"> <li>• pedestrian thrown &gt;15 feet or run over</li> </ul>
<b>Pedestrian:</b>	<ul style="list-style-type: none"> <li>• auto-pedestrian with significant impact &gt; 10mph</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• pedestrian thrown &gt;15 feet or run over</li> </ul>
<b>Blunt Trauma to:</b>	<ul style="list-style-type: none"> <li>• head</li> <li>• neck</li> </ul>	<ul style="list-style-type: none"> <li>• torso</li> </ul>
<b>Extrication:</b>	<ul style="list-style-type: none"> <li>• &gt; 20 minutes with associated injuries</li> </ul>	
<b>Death of Occupant:</b>	<ul style="list-style-type: none"> <li>• in same passenger space</li> </ul>	
<b>Ejection:</b>	<ul style="list-style-type: none"> <li>• partial or complete ejection of patient from vehicle</li> </ul>	
<b>Falls:</b>	<b>ADULT</b>	<b>PEDIATRIC</b>
	<ul style="list-style-type: none"> <li>• <math>\geq 15</math> feet</li> </ul>	<ul style="list-style-type: none"> <li>• &gt; 3 times the child's height or &gt; 10 feet</li> </ul>
<b>Submersion with Trauma</b>		

#### 4. Age and Co-Morbid Factors

If the patient does not meet any of the above criteria, make trauma base station contact to determine if a trauma center should be the destination for the following patients:

- pediatric < 9 years of age
- adult > 65 years of age
- have known underlying respiratory, cardiac, liver disease, or diabetes
- have known underlying hematologic or immunosuppressive conditions
- isolated extremity injury with neurovascular compromise (time sensitive injury)
- pregnant (greater than 20 weeks in gestation)
- inability to communicate, e.g. language, psychological and/or substance impairment

## C. EXCEPTIONS

The patient is identified as a CTP or a potential CTP, but presents with the following:

<b>Unmanageable Airway:</b> <u>Transport to the closest receiving hospital when the patient:</u>	<b><u>REQUIRES INTUBATION</u></b> <ul style="list-style-type: none"> <li>an adequate airway cannot be maintained with a BVM device; <b>AND</b></li> <li>the paramedic is unable to intubate or if indicated, perform a successful needle cricothyrotomy.</li> </ul>	
<b>Severe Blunt Force Trauma Arrest:</b> <ul style="list-style-type: none"> <li>Refer to Protocol #12010 Determination of Death on Scene</li> </ul>	<ul style="list-style-type: none"> <li><b><u>IF INDICATED:</u></b> Transport to the closest receiving hospital</li> </ul>	
<b>Penetrating Trauma Arrest:</b> <ul style="list-style-type: none"> <li>Refer to Protocol #12010 Determination of Death on Scene</li> </ul>	<ul style="list-style-type: none"> <li><b><u>IF INDICATED:</u></b> Transport to the closest receiving hospital</li> </ul> <ul style="list-style-type: none"> <li>If the patient does not meet the “<i>Obvious Death Criteria</i>” in the “<i>Determination of Death on Scene</i>” Protocol #12010, contact the trauma base hospital for determination of death on scene for those patients who suffer a traumatic cardiac arrest in the setting of penetrating trauma with documented asystole in at least two (2) leads, and no reported vital signs (palpable pulse and/or spontaneous respirations) during the EMS encounter with the patient.</li> <li>Resuscitation efforts on a penetrating traumatic arrest victim are not to be terminated without trauma base hospital contact.</li> </ul>	
<b>Burn Patients:</b> <ul style="list-style-type: none"> <li>Refer to Protocol #8030 Burn Criteria and Destination Policy</li> </ul>	<b>Transport to the closest trauma center</b> <ul style="list-style-type: none"> <li>Burn patients meeting CTP</li> </ul>	<b>Transport to the closest receiving hospital or a Burn Center</b> <ul style="list-style-type: none"> <li>Burn patients not meeting CTP</li> </ul>
<b>EMS Aircraft Indications:</b>  <u>An EMS aircraft may be dispatched for the following events:</u>	<ul style="list-style-type: none"> <li>MCI</li> <li>Prolonged extrication time (&gt; twenty (20) minutes)</li> <li><b>Do Not Delay Patient Transport</b> waiting for an enroute EMS aircraft</li> </ul>	
<b>EMS Aircraft Transport Contraindications:</b>  <u>The following are contraindications for EMS aircraft patient transportation:</u>	<ul style="list-style-type: none"> <li>Patients contaminated with Hazardous Material who cannot be decontaminated and who pose a risk to the safe operations of the EMS aircraft and crew</li> <li>Violent patients with psychiatric behavioral problems and uncooperative patients under the influence of alcohol and/or mind altering substances who may interfere with the safe operations of an EMS aircraft during flight</li> <li>Stable patients</li> <li>Ground transport is &lt; 30 minutes</li> <li>Traumatic cardiac arrest</li> </ul>	

	<ul style="list-style-type: none"><li>• Other safety conditions as determined by pilot and/or crew</li></ul>
<b>Remote Locations:</b>	<ul style="list-style-type: none"><li>• Remote locations may be exempted from specific criteria upon written permission from the EMS Medical Director.</li></ul>

**D. CONSIDERATIONS**

1. Scene time should be limited to ten (10) minutes under normal circumstances.
2. Burn patients with associated trauma, should transported to the closest trauma center. Trauma base station contact shall be made.

**E. RADIO CONTACT**

1. If not contacted at scene, the receiving trauma center must be notified as soon as possible in order to activate the trauma team.
2. CTP meeting all Trauma Triage Criteria (Physiologic, Anatomic, Mechanism of Injury, and/or Age and Co-Morbid Factors), a trauma base station shall be contacted in the event of patient refusal of assessment, care and/or transportation.
3. In Inyo and Mono Counties, the assigned base station should be contacted for CTP consultation and destination.